

## ABSTRACT OF THE DISCLOSURE

A specific cavity extractor extracts an isolated group corresponding to a left ventricle from among a plurality of isolated groups to which numbers are attached in a labeling section. A major axis slope calculator section sets, as a left ventricle major axis, a straight line passing through a center of mass calculated in a center-of-mass detector section and a major-axis endpoint detected in a major-axis end detector section. A cavity cross sectional area calculator section calculates a cross sectional area of four cavities for each of a plurality of cutting planes including the left ventricle major-axis. An optimum cross section setter sets, as a four-cavity cross section, a cutting plane in which the cross sectional area of the four cavities becomes maximum.